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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,500	10/02/2003	Michael J. Cullen	203-0155 (FGT 3C4)	1954

36865 7590 05/13/2004

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EXAMINER

RIDDLE, KYLE M

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 05/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/678,500

Applicant(s)

CULLEN, MICHAEL J.

Examiner

Kyle M. Riddle

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 17 is/are rejected.
- 7) ☒ Claim(s) 15 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10022003.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to because the reference numeral "327" in Figure 3 should read --322-- as cited in the specification, page 13, line 19. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Page 18, line 5, "fuel injector 80" is not shown in the drawings. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:
 - Page 2, last line should end with a period;
 - Page 4, line 10, "Figure 2" should read --Figure 1B--;
 - Page 6, line 14, "Figure 2" should read --Figure 1B--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1-12, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanehiro et al. (U.S. Patent 5,241,937).

Kanehiro et al. disclose a system for internal combustion engines comprising:

- a humidity sensor 32 for detecting the humidity of the air and relaying a signal to the electronic control unit ECU 5 (column 9, lines 32-36) which has a CPU 5b (column 10, lines 8-18);
- ECU 5 and CPU 5b determining operating conditions of the engine based on signals from various sensors (column 9, lines 62-64, column 10, lines 15-24);
- CPU 5b supplying driving signals based on parameter calculations to a valve timing changeover apparatus 40 (column 22, lines 5-10);
- the valve changeover device 40 changing the valve timing of the intake and exhaust valves or the valve lift amount (column 20, lines 66-68 with column 21, lines 1-5, and Figure 16);
- an engine having a camshaft (column 9, line 15).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanehiro et al., as applied to claim 12, in view of Strubhar et al. (U.S. Patent 6,728,625).

Kanehiro et al. disclose a system for internal combustion engines comprising a humidity sensor for detecting the humidity of the air and relaying a signal to the ECU which has a CPU, the ECU and CPU determining operating conditions of the engine based on signals from various sensors, the CPU supplying driving signals based on parameter calculations to a valve timing changeover apparatus, the valve changeover device changing the valve timing of the intake and exhaust valves or the valve lift amount having a camshaft. They, however fail to specifically cite the type of humidity being sensed.

Strubhar et al. teach humidity compensated charge density control of internal combustion engines using a humidity sensor 44 that can determine the absolute or relative humidity (column 3, lines 54-60). It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Strubhar et al. in the engine system of Kanehiro et al., since the use thereof more specifically defines the humidity parameter for better use of the sensed data.

Allowable Subject Matter

8. Claims 15 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The IDS (PTO-1449) filed on 2 October 2003 has been considered. An initialized copy is attached hereto.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of 2 patents.

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- Mianzo et al. (U.S. Patent 6,557,540) disclose a method of calculating variable valve timing based on engine performance and environmental signals.

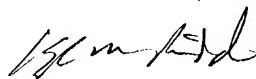
- Bhargava et al. (U.S. Patent 6,575,148) disclose a system for controlling the fueling and ignition timing based on specific and relative humidity.

Communication

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle M. Riddle whose telephone number is (703) 306-3409. The examiner can normally be reached on M-F (07:30-5:00) Second Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kyle M. Riddle
Examiner
Art Unit 3748

kmr



THOMAS DENION
SUPERVISORY PATENT EXAMINER
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